THE

NATURAL HISTORY

OF

BRITISH INSECTS;

EXPLAINING THEM

IN THEIR SEVERAL STATES,

WITH THE PERIODS OF THEIR TRANSFORMATIONS, THEIR FOOD, OECONOMY, &c.

TOGETHER WITH THE

HISTORY OF SUCH MINUTE INSECTS

AS REQUIRE INVESTIGATION BY THE MICROSCOPE.

THE WHOLE ILLUSTRATED BY

COLOURED FIGURES,

DESIGNED AND EXECUTED FROM LIVING SPECIMENS.

By E. DONOVAN.

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MDCCXCV.

THE

NATURAL HISTORY

OF

BRITISH INSECTS.

PLATE CIX.

PAPILIO PODALIRIUS.

SCARCE SWALLOWTAIL.

BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ clavated. Wings when at reſt erect. Fly by day.

SPECIFIC CHARACTER.

Above pale yellow, beneath paler. On the firſt wings (upper ſide) ſix pale black ſtripes and a black margin. On the ſecond wings, an oblique black ſtripe, and a black border with five ſemilunar blue ſpots, two long tails. Stripes more numerous on the under ſide.

PAPILIO *Podalirius*, alis caudatis ſubconcoloribus flaves centibus, faſciis fuſcis geminatis, poſticis ſubtus linea ſanguinea.

Syſt. Ent. 451. 38.
Linn. Syſt. Nat. 2. 751. 36.
Muſ. Lud. Vir. 208.

Papilio alis pallide flavis, rivulis tranſverſis nigris ſecundariis angulo ſubulato maculaque crocea. *Geoff. Inſ.* 2. 56. 24.

Papilio Sinon. Pod. Inſ. 62. *tab.* 2. *fig.* 1.
Cram. Inſ. 13. *tab.* 152. *tab.* 2. *fig.* 1.
Merian. Europ. 163. *tab.* 44.
Roeſ. Inſ. 1. *pap.* 2. *tab.* 2.
Reaum. Inſ. 1. *tab.* 11. *fig.* 3. 4.
Jonſt. Inſ. tab. 5. *fig.* 5.
Eſp. pap. 1. *tab.* 1. *fig.* 2.
Schæff. elem. tab. 94. *fig.* 4.
——— *Icon. tab.* 45. *fig.* 3. 4.
Raj. Inſ. 111. 3.
Fab. Spec. Inſ. 2. 15. 58.

Fabricius * and ſome other entomological writers have very minutely deſcribed the Larva and Pupa ſtate of this rare butterfly; the Larva feed on the leaves of the turnip, cabbage, and other plants of the ſame genus; it is of a yellow colour, with ſpots of brown, head pale green. The Pupa is yellow, ſpotted with brown alſo, and has two teeth, or ſharp points in the fore-part.

We have received the Butterfly from North America, as well as from Germany; it appears to be a native of moſt parts of the European Continent, though perhaps not frequently found.—*Berkenhout* is the only writer who has deſcribed it as an Engliſh ſpecies †; he ſays it is rare (in this country,) found in woods. In the perfect ſtate, viſits flowers in the day time.

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* Habitat in Europæ Braſſicæ.
Larva ſolitaria, flaveſcens, fuſco punctata, capite pallide virefcente.
Puppa flaveſcens, fuſco punctata, antice bidentata. *Fab. Spec. Inſ.* &c.

† Synopſis of the Natural Hiſtory of Great Britain and Ireland.

PLATE

PLATE CX.

PHALÆNA PENTADACTYLA.

White Feathered Moth.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the baſe. Wings in general contracted when at reſt. Fly by night.

* 7 * Alucitæ.

SPECIFIC CHARACTER.

Every part ſnow white, except the eyes, which are black, anterior wings bifid, poſterior tripartite.

Phalæna Pentadactyla *Alucita* alis patentibus fiſſis quinque partitis niveis, digito quinto diſtincto. *Lin. Syſt. Nat.* 2. 542. 304. *edit.* 10.

P. Pentadactylus, alis niveis, anticis bifidis, poſticis tripartitis.
Syſt. Ent. 672. 6—*Fab. Spec. Inſ.*
Geoff. Inſ. 2. 91. 1.
Reaum. Inſ. 1. *tab.* 20. *fig.* 1. 2.
Roeſ. Inſ. 1. *phal.* 4. *tab.* 5.
Ammir. Inſ. tab. 23.
Sulz. Inſ. tab. 16. *fig.* 10.
Petiv. Gazoph. tab. 67. *fig.* 6.

The Caterpillar of this ſingular Inſect is very common in May; it is of a green colour, with a white ſtripe down the back, and one on each ſide; it caſts its ſkin ſeveral times.

We have obſerved ſome Caterpillars which were quite ſmooth, after caſting their ſkin become rough or covered with hairs; and others which

were white become black by the ſame proceſs; in this caterpillar we have obſerved a ſimilar change: a ſpecimen which was of a plain green as before deſcribed, became ſuddenly ſpotted with black as ſhewn in our plate, that ſkin being caſt off it aſſumed its former appearance and became a pupa.

It feeds on graſs, nettles, &c. near the ſides of ditches, and is found ſporting in the evening, when in the fly ſtate among the graſs and herbage.

The Caterpillar becomes a Pupa about the beginning of June.—It affixes itſelf by the tail to a ſtalk of graſs in the ſame manner as thoſe of the Butterfly genus, and like them is often found with the head ſuſpended downwards; it can by a ſudden ſpring turn itſelf upright again.

In a little book entitled the AURELIAN'S POCKET COMPANION, by Moſes Harris, we find this ſpecies deſcribed, and called the *White Plumed*, but the Linnæan ſpecified Name *Didactyla* is added:—And under the Linnæan name Pentadactyla (our preſent ſpecimen) he has deſcribed the *Brown plumed**.—The ſame confuſion is extended to his folio work the AURELIAN. In Plate I. he has figured the White plumed under the ſpecific name Didactyla, and in Plate 30, the Brown plume, under Pentadactyla. Linnæus has compriſed all thoſe Lepidopterous Inſects whoſe wings appear to conſiſt of ſeveral diſtinct feathers, connected only at the ſhafts, under the ſubdiviſion *Alucitæ*, but Fabricius has given them the new name PTEROPHORUS, and added the name Alucitæ to a ſmall diviſion of the Tinea, as Phal. Chriſtyloſtella, &c. of *Linn.*

The Phal. Pentadactyla appears in the perfect ſtate about the latter end of June, ſometimes earlier.

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* Another ſpecimen of the ſame diviſion of the genus (*Alucitæ*) but of a brown colour "Alis fiſſis fuſcis, &c." *Linn.*

PLATE


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PLATE CXI.

FIG. I. II.

CHRYSOMELA 4 PUNCTATA.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ knotted enlarging towards the ends. Corſelet margined.

*** Body Cylindrical.

SPECIFIC CHARACTER.

Head and thorax black. Shells yellow brown with two black ſpots on each. Antennæ ſerrated.

CHRYSOMELA 4 *punctata* cylindrica, thorace nigro, elytris rubris: punctis duobus nigris, Antennis brevibus. *Linn. Syſt. Nat.* 2. 374. 50. *edit.* 10.

CHRYSOMELA 4 *punctata* thorace nigro, elytris rubris, maculis duabus rubris antennis ſerratis. *Degeer. Inſ.* 5. 32. *tab.* 10. *fig.* 7.

Melontha coleoptris rubris maculis quatuor nigris, thorace nigro. *Geoff. Inſ.* 1. 195. *tab.* 3. *fig.* 4.

Bupreſtio 4 punctata. *Scop. Ent. Carn.* 206.

Cryptocephalus 4 punctatus. *Fab. Spec. Inſ.* 1. 138. 3.
Schæff. Elem. tab. 83. *fig.* 1.
——— *Icon. tab.* 6. *fig.* 1. 2. 3.

This

This ſpecies is ſcarce, though more frequently met with than either of the following Chryſomelæ. It is generally found on the Hazel-nut tree.

FIG. III. IV.

CHRYSOMELA SANGUINOLENTA.

COLEOPTERA.

CHRYSOMELA.

SPECIFIC CHARACTER.

Black blue, a bright orange or red exterior margin to the elytra.

CHRYSOMELA *Sanguinolenta* ovata atra, elytris margine exteriori ſanguineis. *Linn. Syſt. Nat.* 2. 591. 38. *Syſt. Ent.* 101. 40.

CHRYSOMELA nigro cœrulea, elytris atris punctatis margine exteriori rubro. *Geoff. Inſ.* 1. 259. 8. *tab.* 4. *fig.* 8.

Chryſomela rubro marginata. &c. Degeer Inſ. 5. 298. 7. *tab.* 8. *fig.* 26.

Bupreſtis Sanguinolenta. *Scop. carn.* 203.

Extremely rare in England; our ſpecimen was found on the trunk of an aſh tree in June 1794——in Kent.

FIG.

FIG. V. VI.

CHRYSOMELA COCCINEA.

COLEOPTERA.

CHRYSOMELA.

SPECIFIC CHARACTER.

Fine red, with two black ſpots on each elytra, and one on the thorax.

CHRYSOMELA *coccinea* oblonga, thorace marginato ſanguineo, macula nigra, elytris ſanguineis maculis duabus nigris. *Linn. Syſt. Nat.* 2. 592. 43.—*Fn. Sv.* 532.

CHRYSOMELA 4 *maculata*, &c. *Degeer Inſ.* 5. 301. 10. *tab.* 9. *fig.* 1.

Coccinella Coleoptris rubris maculis 4 nigris. *Vdm. Diſſ.* 13. *Fab. Spec. Ent.* 1. 131. 83.

Very rarely met with: our ſpecimen was taken on a thiſtle in a field between Kennington Common and Camberwell, May 1794. The ſpecies has not till very lately been conſidered as a native of this country.

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PLATE CXII.

SCARABÆUS FULLO.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ clavated, their extremities fiſſile. Five joints in each foot.

SPECIFIC CHARACTER,

AND

SYNONYMS.

Antennæ, of ſeven laminæ *. Head, thorax, and ſhells brown, ſpotted with white. Beneath white.

SCARABÆUS FULLO ſcutellatus muticus, antennis heptaphyllis, corpore nigro pilis albis, ſcutello macula duplici alba. *Linn. Syſt. Nat.* 2. 553. 57.—*Fn. Sv.* 394.

SCARABÆUS, &c. *Geoff. Inſ.* 1. 69. 2.
Friſch. Inſ. 11. *tab.* 1. *fig.* 1.

SCARABÆUS Variegatus. *Roeſ. Inſ.* 4. *tab.* 30.
Schæff. Icon. tab. 23. *fig.* 2.
Hæfn. Inſ. 2. *tab.* 7.
Sulz. Hiſt. Inſ. 1. 1.

Melolontha Fullo. *Fab. Spec. Inſ.* 1. 35. 1.

Except the Stag Beetle, (Cervus Lucanus) which is figured already in this work, this is the largeſt Coleopterous Inſect ever found in England; it is extremely rare, and is ſaid to be met with only in the ſand on the ſea coaſt near Sandwich.

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* The antennæ of the male is very large, as ſhewn in our figure; the antennæ of the female is repreſented at Fig. 1.

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PLATE CXIII.

FIG. I.

HEMEROBIUS HIRTUS.

NEUROPTERA.

Wings four, naked, tranſparent, reticulated with veins or nerves. Tail without a ſting.

GENERIC CHARACTER.

Mouth prominent. Palpi four. Wings deflexed. Antennæ longer than the thorax, taper, extended.

SPECIFIC CHARACTER.

Firſt wings tranſparent reticulated with brown veins, hairy. Veins fewer on the ſecond wings.

HEMEROBIUS hirtus, alis albis fuſco reticulatis, faſciis duabus fuſceſcentibus. *Linn. Syſt. Nat.* 2. 912. 6.—*Fn. Sv.* 1507. *Degeer Inſ.* 2. 2 70. 12. *tab.* 22. *fig.* 4. 5.

This very common Inſect is found on the nut tree, and oak. It conceals itſelf in the middle of the day among the foliage, or flies only in moiſt, ſhady places. It is always obſerved to be very briſk at the approach of a thunder ſtorm, like the Hemorobius Perla, &c.

The nerves on the wings are ſo exceedingly delicate, that it is impoſſible to give an accurate repreſentation of the natural ſize; but to remedy that defect, we have ſhewn the magnified appearance of an upper and under wing at Fig. 2.

The wings are of a pale tranſparent brown; which as the Inſect moves in different directions reflect all the vivid colours of a Priſm.

PLATE CXIV.

PHALÆNA COSSUS.

GOAT MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the baſe. Wings in general contracted when at reſt. Fly by night.

SPECIFIC CHARACTER,

AND

SYNONYMS.

Grey, with ſhort black irregular curved lines on the upper wings. Antennæ feathered.

PHALÆNA COSSUS. *Bombyx* elinguis, alis deflexis nebuloſis, thorace faſcia poſtica atra. *Linn. Syſt. Nat.* 2. 504. 40. *edit.* 10.

PHALÆNA pectinicornis elinguis, alis albo cinereis, ſtriis tranſverſis nebuloſis nigris. abdomine annulis albis.
Geoff. Inſ. 2. 102. 4.
Degeer Inſ. Vers. Germ. 2. 1. 268. 1.
Merian. Europ. tab. 36.
Roeſ. Inſ. 1. *phal.* 2. *tab.* 18.
Reaum. Inſ. 1. *tab.* 17. *fig.* 1. 5.
Albin. Inſ. tab. 35. *fig.* 56.
Lyonet Traite de Chenille.
Schœff. Icon. tab. 61. *fig.* 1. 2.
Goed. Inſ. 2. *tab.* 33.

The

The Caterpillar of the Goat Moth feeds on the internal ſubſtance of willow trees; it is ſaid to be alſo found in the body of the oak, but we have never diſcovered any in ſuch a ſituation. The eggs are laid in the crevices of the trees; as ſoon as the Caterpillars are hatched, they begin to pierce into the ſolid wood. In moſt parts of England they are called Auger Worms; the holes which they make in the timber appearing as if bored with that Inſtrument.

It lives in the Caterpillar ſtate three years before it is transformed to a pupa; when full fed it is four inches long, the body appears very fleſhy, and without hairs; the head is black, and armed with very ſharp forceps; the caſe is compoſed of bits of wood and ſaw-duſt, which it unites with a ſtrong web; the inſide is lined with a fine ſmooth white filmy ſubſtance, like ſattin; it paſſes to the pupa ſtate in the cavity which it has perforated in the caterpillar ſtate, within three or four inches of the opening: it remains only two months in that ſtate before the Fly is produced.

Is found in chryſalis in May; in the fly ſtate, the latter end of June, or in July.

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PLATE CXV.

CHRYSOMELA CEREALIS.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ knotted, enlarging towards the ends. Corſelet margined.

SPECIFIC CHARACTER,

AND

SYNONYMS.

Thorax and ſhells ſtriped with blue, crimſon and yellow green inclining to gold. Wings fine ſcarlet.

CHRYSOMELA CEREALIS. Ovata aurata, thorace lineis tribus coleoptriſque quinque cœruleis. *Syſt. Ent.* 100. 33. *Linn. Syſt. Nat.* 2. 588. 17.

CHRYSOMELA aurea faſciis cœruleis cupreiſque alternis, punctis inordinatis.
Geoff. Inſ. 1. 262. 14.
Schæff. Icon. tab. 1. *fig.* 3.
Fab. Spec. Inſ. 1. *p.* 124. 45.

This beautiful Inſect is a native of Georgia in North America; and has been received from ſeveral parts of Africa, as Guinea, &c.

It has alſo been found (though we believe very rarely) in the ſouthern parts of Europe, particularly in Italy; and we have reaſon to conclude it has been met with in the ſouth of France, and in Germany *.

We preſume to include it among the Engliſh Chryſomelæ, on the authority of the late Mr. Hudſon, author of the *Flora Anglica*, &c. who appears to be the only Naturaliſt that has taken it in Great Britain, except the Rev. Mr. Hugh Davies, of Beaumaris, who alſo met with a ſpecimen of it on a mountain in Wales ſome years ſince.

The colour of the ſtripes on the ſhells ſometimes vary; and the underſide, which in our Inſect is purple, is often of a ſhining browniſh colour; the tranſparent wings, which are concealed beneath the ſhells, are bright red.

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* Habitat in Europæ auſtralioris ſegete, in ſpartio ſcoparia. *D. Prof. Hermann. Fab. Spe. Inſ.*

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PLATE CXVI.

SPHINX CHRYSORRHŒA.

Golden-tail Sphinx.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ thickeſt in the middle. Wings, when at reſt, deflexed. Fly ſlow, morning and evening only.

SPECIFIC CHARACTER.

Wings tranſparent with black veins. Head, thorax, body, ſhining black with yellow rings or belts. Tail fine golden yellow.

In the paintings of *Ernſt*, a figure of a tranſparent-winged Sphinx, ſimilar to this, is given, under the ſpecific name Oeſtriformis: we are not clearly convinced he intended it for this Inſect, nor can we conceive the name to be by any means applicable; we therefore paſs over the reference to that very ſcarce work as doubtful, and reject his ſpecific name leſt he ſhould mean another Inſect.

Linnæus has not deſcribed this ſpecies, nor have we found a deſcription of it in the writings of Fabricius.

It is rare in England. Thomas Marsham, Eſq. Sec. L. S. favoured me with the ſpecimen from which the annexed figure is taken; it was met with in Kenſington Gardens in June.

PLATE CXVII.

PHALÆNA CRATÆGI.

Oak Egger Moth.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the baſe. Wings, in general contracted when at reſt. Fly by night.

SPECIFIC CHARACTER.

Wings rounded. Aſh-colour, or dull brown, with obſcure waves of a darker colour.

PHALÆNA CRATÆGI. *Linn. Syſt. Nat.* 2. 823. 48.
Reaum. Inſ. 1. *tab.* 44. *fig.* 10.
Degeer Inſ. 1. *tab.* 11. *fig.* 20. 21.

We have never found this Inſect common, though it muſt not be conſidered as a rare ſpecies; it is ſeldom met with near London: our ſpecimen was found in the Caterpillar ſtate at Dartford in May. It changed to Chryſalis in June. The fly came forth in September.

The male is rather ſmaller than the female generally, though not always. The ſtrength of their colours is very inconſtant, eſpecially in the female, which we have ſeen very dark in ſome ſpecimens; in others nearly as pale as the male; the general diſtinction however between the two ſexes is, the male being of a light grey with ſpots and waves of brown, the female of an obſcure brown with ſpots more diffuſed.

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PLATE CXVIII.

FIG. I.

CIMEX LACUSTRIS.

HEMIPTERA.

Shells, or upper Wings, ſemi-cruſtaceous, not divided by a ſtraight ſuture, but incumbent on each other. Beak curved downward.

GENERIC CHARACTER.

Antennæ longer than the Thorax. Thorax margined. In each Foot three joints.

SPECIFIC CHARACTER,

AND

SYNONYMS.

Above black. Beneath black changeable to white. Antennæ black, of four joints, half as long as the body. Eyes large, prominent. Fore Legs much ſhorter than the reſt.

Cinex Lacuſtris. linearis niger, pedibus anticis breviſſimis. *Linn. Syſt. Nat.* 2. 732. 117.—*Fab. Spec. Inſ. Fn. Sv.* 970.

Inſectum Tipula dictum. *Bauh. Ball.* 213. *fig.* I.

This Inſect is met with in great plenty on ſtill waters, in ſummer; it runs quick on the ſurface.

FIG. II.

CIMEX ACUMINATUS.

SPECIFIC CHARACTER,

AND

SYNONYMS.

Oval. Olive colour. Antennæ of five joints. Snout ſharp. Thorax narrow before. Two brown longitudinal lines from the Eyes to the poſterior margin of the Target.

Cimex Acuminatus, &c.—*Linn. Syſt. Nat.* 2. 723. 59.—*Fn. Sv.* 939.
Degeer Inſ. 3. 271. 16. *tab.* 14. *fig.* 12, 13.
Muſca cimiciformis. *Raj. Inſ.* 56. 6.

Met with in *May*, on the Fern *. We have never found it common.

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* Oſmunda Regalis.

PLATE

PLATE CXIX.

PHALÆNA ZICZAC.

Pebble Prominent Moth.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the baſe. Wings in general contracted when at reſt. Fly by night.

SPECIFIC CHARACTER,

AND

SYNONYMS.

Brown and white clouded like an Agate; a large clouded Eye, next to the exterior margin of the firſt Wings; on the interior margin a tuft, or appendage. Antennæ feathered.

PHALÆNA ZICZAC. B. Alis deflexis dorſo dentatis apicibuſque macula griſea ſubocellari, antennis ſquamatis.
Syſt. Ent. 573. 35. *Linn. Syſt. Nat.* 2. 827. 61.—*Fn. Sv.* 1116.
Geoff. Inſ. 2. 124. 29.
Merian. Europ. tab. 147.
Friſch. Inſ. 3. *tab.* 1. *fig.* 2.
Degeer Inſ. 1. *tab.* 6. *fig.* 1. 10.
Reaum. Inſ. 2. *tab.* 22. *fig.* 9—16.
Fab. Spec. Inſ. 2. *p.* 186. 76.

This ſingular and beautiful Caterpillar is found on the Willow, early in *June*; it becomes a Pupa within a fine, br[illegible]ſmith web, which it ſpins between two or three leaves, (as repreſented in our Plate,) late in the ſame month; the Moth comes forth in *Auguſt*.

The trivial name prominent has been given to this Inſect, becauſe when the Moth is at reſt the remarkable appendages on the interior margin of the upper Wings form a prominent tuft above the back; we have ſix different ſpecies of Phalæna in this country which have the ſame character, and are known among Collectors by the ſeveral names, Pale, Maple, Swallow, Iron, Pebble, and Cockſcomb, Prominents; the laſt is common, the reſt are generally very rare.


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PLATE CXX.

APIS CENTUNCULARIS.

CARPENTER BEE.

HYMENOPTERA.

Wings four, generally membraneous. Tail of the females armed with a ſting.

GENERIC CHARACTER.

Jaws, with a Trunk deflexed. Antennæ elbowed in the middle; firſt joint longeſt. Wings plain. Body hairy.

SPECIFIC CHARACTER,

AND

SYNONYMS.

Black. Body long, narrow. Head, Thorax, and Legs covered with greyiſh hair. Abdomen ſmooth, beneath covered with tawny hair.

Apis Centuncularis, nigra, ventre lana fulva.—*Syſt. Ent.* 385. 42.—
Linn. Syſt. Nat. 2. 575. 4. *edit.* 10.
Geoff. Inſ. 2. 410. 5.
Scop. carn. 799.
Reaum. Inſ. 6. *tab.* 10. *fig.* 3, 4.
Fab. Spec. Inſ. 1. 486. 59.

The wonderful inſtinct that directs the ſmalleſt Inſects to provide for the ſafety of their future progeny, never fails to ſtrike the attention of the inquiſitive reſearcher into their oeconomy.—To perpetuate their race

race is the great end of their being, and the moſt aſtoniſhing effort of their ingenuity and care is employed to perfect this grand deſign. We not only find innumerable eggs, and larvæ of Inſect on all kinds of plants; in all ſtanding waters; and in animal matter, when putrid; but many which can only be hatched from the egg by the warmth of living animals; thus the Tabanus pierces the thick hide of the Cow, and plunges its eggs into the fleſh; the heat and moiſture of which nouriſhes both in the egg, and larva; the Hippoboſca equina protrudes its eggs into the *rectum* of Horſes; and the Ichneumon into living Caterpillars: to thoſe we could add many remarkable inſtances of Inſects, who have ſhewn a lower ſpecies of perception, by depoſiting their eggs in places where the larvæ would find abundance of proper food; and with ſuch ingenious contrivances for their ſafety in a defenceleſs ſtate, as we could only expect from the ſagacity of larger animals; but it is only our intention to premiſe with thoſe general remarks, leſt the ſubject we have choſen for our preſent Plate ſhould be conſidered as a ſolitary example of ſuch ingenuity, and care towards their future offspring.

The Natural Hiſtory of the Common Bee has been both fully and ably treated of, by *Schirach*, *Maraldi*, *Reaumur*, *Debraw*, and other authors of reſpectability, and may be ſuppoſed to be pretty generally known by thoſe converſant in rural affairs; the manners, however, of other ſpecies of the ſame genus has neither been ſo fully explained, nor examined; they yet preſent a fund for the enquiries of the Naturaliſt, equally worthy his attention; though leſs beneficial; as the honey they make cannot be converted to our uſe.

Among the ſolitary Bees, ſome penetrate into the earth, ſcoop out hollow cavities; then poliſh the ſides within, and depoſit their eggs, with proper food for the larvæ, till it becomes a Pupa. Others form neſts of looſe ſand, which they glue together with a ſtrong cement; thoſe neſts are generally formed againſt walls that are expoſed to the ſouth; without, they are rude and irregular, but within are very neatly finiſhed, and divided into ſeveral cells or apartments, in each of which the Parent Bee lodges an egg. Of our preſent, and a few other ſpecies, we may ſay,

" In firmeſt oak they ſcoop a ſpacious tomb,
" And lay their embryo in the ſpurious womb *."

We find this ſeaſon, the Apis Centuncularis has done conſiderable injury among the Timber Plantations in *Eſſex*; and we have ſimilar information from ſome parts of *Cambridgeſhire*. A Gentleman ſent me (early in the Spring) a piece of Oak, containing a quantity of the larva, from his plantation at *Birdbrook*, in *Eſſex*. He informs me, ſeveral Gentlemen in his neighbourhood had found large trunks of apparently healthy Oaks, completely perforated and filled with the larva of this miſchievous Inſect; in many inſtances the trunk had been materially injured, and the caſes were arranged as ſhewn by the horizontal Section at Fig. 4, in our Plate.—The perforations were in a longitudinal direction, ſeveral feet through the ſolid timber, and when the leaves were freſh, appeared as ſhewn at Fig. 1.

The Inſect commences its operation at the upper part of the trunk of the tree; then boring in an oblique direction for about two inches or more, it follows a longitudinal courſe, it divides the ligneous fibres, or threads, till it forms the diameter of the cavity, which is about three-eighths of an inch, its depth various; ſometimes only a few inches, at others, conſiderably more; when the cavity is entirely formed, and all the duſt and fragments cleared away, it finiſhes the ſides perfectly ſmooth; the hardeſt knot in the timber being inſufficient to reſiſt the ſtrength of its jaws.—The cavity, when finiſhed, appears divided by ſlight ridges, placed at the diſtance of about three quarters of an inch from each other; this ſerves to regulate the ſize of each apartment or cell; and it now only remains to be lined for the reception of the egg: this lining is generally compoſed of roſe-leaves; and is applied to the apartments in a very curious manner: the Parent Bee flies with a leaf to the orifice of the perforation, where ſhe clips it round to the ſize of the hole; this is forced to the bottom of the loweſt cell; about ſeven, eight, or ten of ſuch pieces form the firſt layer; it next forms the ſides, or cylindrical part of the lining; this is done by laying ſeveral whole leaves partly over each

* Brookes on Univerſal Beauty.

other,

other, as ſhewn in our Plate, and cementing them together with a glutinous ſubſtance; thus the ſides and bottom, each conſiſting of ſeveral layers, being finiſhed, (in the form of a thimble) the Bee partly fills it with a kind of paſte, then throws over it a ſmall quantity of leaves, reduced to powder, and depoſits the egg; the covering to the whole is formed of the ſame materials, and in the ſame manner as the bottom; when ſhe has forced about ten or fifteen circular pieces of leaves into the avenue and cemented them to the top, the covering is completed, and the egg is completely ſecured from accident.—The covering ſeparated is ſhewn in the Plate, at fig. 3, the larvæ, at fig. 2.

In this manner ſhe proceeds with, and finiſhes every cell diſtinctly, till the perforation is entirely filled: in ſome trees forty or fifty ſuch perforations are placed within a quarter of an inch of each other.—The Bee comes forth late in Auguſt; if the loweſt is formed before thoſe above, it eats its way up the channel, through their caſes.

Mr. *Adams*, in his Eſſay on the Microſcope, mentions a remarkable circumſtance of a Bee (we ſuſpect of this ſpecies). "A friend of mine (ſays he) had a piece of wood cut from a ſtrong poſt * that ſupported the roof of a cart-houſe, full of theſe cells or round holes, three-eighths of an inch diameter, and about three-fourths deep, each of which was filled with theſe roſe-leaf caſes, finely covered in at top and bottom."

* We learn this poſt was fir.

PLATE


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PLATE CXXI.

CURCULIO.

COLEOPTERA.

Wings two. Covered by two Shells, divided by a longitudinal ſuture.

GENERIC CHARACTER.

Antennæ clavated, elbowed in the middle, and fixed in the ſnout, which is prominent. Joints in each foot four.

FIG. I. II.

CURCULIO ÆQUATUS.

SPECIFIC CHARACTER.

Roſtrum long, ſlender, dark brown ſprinkled over with bronze; Thorax the ſame. Shells reddiſh brown. Legs brown.

Fab. Ent. Syſt.

FIG. I. Natural Size.

This Inſect was found in *May* on the hazel; the ſpecies varies in ſize, but more in colour.

PLATE CXXI.

FIG. III. IV.

CURCULIO PYRI.

SPECIFIC CHARACTER,

AND

SYNONYM.S.

Snout ſhort. Thighs dentated. General colour bronze changeable to yellow red, brown, green, &c. Shells ſtriated and punctured.

CURCULIO PYRI. breviroſtris femoribus dentatis æneo fuſcus.
Linn. Syſt. Nat. 2. 615. 72.
Fn. Sv. 623.

Curculio breviroſtris, antennis fractis rufis, corpore oblongo æneo nitido, pedibus rufis *. *Degeer Inſ.* 5. 246. 34.

Curculio viridis opacus, pedibus antenniſque magis fuſcis. *Linn. It. Scan.* 355.

It has been ſuſpected by ſome Entomologiſts, that this Inſect ſhould only be conſidered as a variety of Curculio Argentatus. Much of its beautiful appearance depends on the time we take it in; when firſt hatched its colours are very rich and highly gloſſed with gold, but it gradually becomes dirty brown, or almoſt black.

The cauſe of this alteration in its appearance is eaſily perceived by the microſcope; the firſt, or ground colour is dark brown, but is entirely covered with oblong ſcales of various beautiful colours, particularly of a reddiſh gold, or bronze, interſperſed with thoſe of green, and brown colour; when the Inſect is firſt hatched, the ſcales lay over each other ſo as to conceal the ground colour; but as they rub off, or are otherwiſe injured, the brown becomes the general colour.——They vary alſo very much from red, to

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* Variat pedibus rufis et nigris. *Fab. Spec. Inſ.* 1. 198. 217.

yellow,

yellow, or green hues, when firſt hatched; and are ſometimes found late in the ſeaſon, with almoſt every ſcale rubbed off.

Linnæus and Fabricius ſay, it is found on Pear trees †. We have met with it on ſeveral other trees. Found from *May* to *September*.

FIG. V. VI. VII.

CURCULIO CAPREÆ.

SPECIFIC CHARACTER.

Small, black. A longitudinal whitiſh line down the Thorax. Two waved white lines acroſs the ſhells, with a longitudinal mark of brown on each. Legs black.

CURCULIO CAPREÆ. *Fab. Spec. Inſ.* 1. 168. 39.

This little Inſect very much reſembles Curculio Salicis, both in ſize and colours; but it is ſufficiently diſtinguiſhed from that ſpecies by its walking or running; as leaping is a particular character of that Curculio.

We have never met with more than one ſpecimen; found on the Ozier in *June*.

It is a very beautiful ſubject for the Opaque Microſcope; its magnified appearance is ſhewn at fig. 6.—The roſtrum fig. 7.—Fig. 5. Natural ſize.

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† Habitat in Pyri foliis, in Corrolis declaratus. *Linn.*

PLATE CXXII.

SPHINX ELPENOR.

ELEPHANT SPHINX, or HAWK-MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ thickeſt in the middle. Wings, when at reſt, deflexed. Fly ſlow, Morning and Evening.

SPECIFIC CHARACTER,

AND

SYNONYMS.

Wings angular, entire; firſt wings ſtriped tranſverſely with greeniſh brown, and red. Second Wings red, with a white poſterior margin; black at the baſe. Body red and brown.

SPHINX ELPENOR. Alis integris, viridi purpureoque variis, poſticis rubris baſi atris.
Fab. Spec. Inſ. 2. 148. 43.
Syſt. Ent. 543. 25.
Linn. Syſt. Nat. 2. 801. 17.
Fn. Sv. 1049.

Sphinx ſpirilinguis, alis viridi purpureoque faſciatis, faſciis linearibus tranſverſis. *Geof. Inſ.* 2. 86. 10.
Roeſ. Inſ. 1. *phal.* 2. *tab.* 33. *fig.* 73.
Petiv. Gazoph. tab. 40. *fig.* 11. 12. 17.
Friſch. Inſ. 13. 4. *tab.* 2.

The Caterpillars of this very elegant Sphinx are generally found in marſhy places in *June* and *July*. They feed on the Convolvulus,

Vine, and ſome other plants, but prefer white ladies bedſtraw; they caſt their ſkins ſeveral times, and when full fed are ſome green, and others of a brown colour. The Caterpillars of the female is a fine green elegantly marked with black, as repreſented in our plate; thoſe of the male are varied with the ſame dark markings, but the colour is a dull brown inclining to black in thoſe parts where the females are green.

It poſſeſſes a faculty peculiar to a very few Inſects, it can protrude its head and three firſt joints to a tapering point; or entirely conceal the head and contract the firſt joints, by drawing them apparently into its body.

The Caterpillars form a white ſpinning among the leaves in *Auguſt*; remains in the pupa ſtate during the winter; the Fly comes forth *May* following. They are frequently deſtroyed by an Ichneumon fly.

PLATE CXXIII.

CIMEX PRASINUS.

HEMIPTERA.

Shells, or Upper Wings ſemicruſtaceous, not divided by a ſtraight ſuture, but incumbent on each other. Back curved downwards.

SPECIFIC CHARACTER,

AND

SYNONYMS.

Head, Corſelet and Shells green. Abdomen black above, with a yellow and black margin, beneath pale orange varied into green. Legs and Antennæ yellowiſh.

Cimex PRASINUS. *Linn. Syſt. Nat.* 2. 722. 49.
Fab. Spec. Inſ. 2. 354. 96.

Not uncommon in the month of *Auguſt* in woods. Found on the Oak.

PLATE

PLATE CXXIV.

PHALÆNA ANOSTOMOSIS.

Scarce Chocolate-tip Moth.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the baſe. Wings in general deflexed when at reſt. Fly by night.

BOMBYX.

Antennæ feathered.

SPECIFIC CHARACTER.

Firſt wings greyiſh, with three tranverſe ſtripes of dull white. Apex fine chocolate colour. Second wings and body pale brown.

Phalæna Anostomosis. B. alis deflexis griſeis, ſtrigis tribus albidis ſubanaſtomoſantibus, thorace ferruginato. *Fab. Spec. Inſ.* 2. 189. 85.
Linn. Syſt. Nat. 2. 824. 53.
Fn. Sv. 1124.
Goed. Inſ. 1. *tab.* 33.

A very rare ſpecies of Phalæna. In the perfect ſtate it is ſeldom met with; and in the Caterpillar ſtate few Collectors are acquainted with its haunts. It feeds on the ſallow, willow, and poplar, and may be found ſometimes by ſtripping off the bark of thoſe trees.

Our ſpecimen was taken in the vicinity of Oak-of-Honor Hill, Surry. The Caterpillar was met with when it was ready to ſpin its web, in which ſtate it is repreſented; its ſpinning was formed between the folds of a leaf in the month of October, the Moth came forth in May.

The Moth in the upper part of the plate is a ſmall ſpecimen of the female; it differs very little from the male, except that the antennæ of the latter is much feathered, as is ſhewn on the back of the leaf.

The ſpecies is more plentiful on the continent of Europe, and a variety of it is a native of ſome parts of North America.

A Collector of Inſects in London met with a brood of this ſpecies laſt September, in the Caterpillar ſtate, containing more than twenty; ſome were covered with a milk-white down, others inclining to grey, but in general they were like the ſpecimen given in our plate. They changed their appearance frequently, and ſome were much larger than the reſt. The Moths alſo differ very much both in ſize and colour; ſome are dingy, others have the chocolate colour much diffuſed; and in general, when the Inſect is perfect, it is beautifully varied with a pale bloom of a purple hue.

PLATE CXXV.

MUSCA SEMINATIONIS.

DIPTERA.

Wings 2.

GENERIC CHARACTER.

A ſoft flexible trunk, with lateral lips at the end. No palpi.

SPECIFIC CHARACTER.

Head and Thorax black-brown; Abdomen black, with very minute ſpecks of white. Wings clouded and ſpeckled with brown. A yellow ſtreak on the under ſide of the abdomen.

MUSCA SEMINATIONIS. Antennis ſetariis, alis atris cinereo punctatis, abdomine baſi ſubtus flavo. *Fab. Spec. Inſ.* 2. 452. 90.

This ſpecies is ſometimes met with in meadows, on plaintain, thiſtles, &c. in May and June.

It is a very pleaſing object for the Microſcope, particularly the wings, which are finely reticulated and ſpotted. Its magnified appearance is given with its natural ſize in our plate.

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PLATE CXXVI.

PHALÆNA RUMICIS.

Bramble Moth.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the baſe. Wings in general contracted when at reſt. Fly by night.

* *NOCTUA.*

Antennæ like a hair.

SPECIFIC CHARACTER.

Firſt wings grey, marked with pale black ſtreaks and clouds, with an eye in the middle, and two white ſpots on the anterior margin. Second wings pale brown.

Phalæna Rumicis. N. criſtata, alis deflexis cinereo fuſcoque variis litura marginis tenuioris alba.—*Fab. Spec. Inſ.* 2. 238. 143.

Phalæna Rumicis. ſpirilinguis criſtata, alis deflexis cinereo bimaculatis, litura marginis tenuioris alba. *Linn. Syſt. Nat.* 2. 852. 164.—*Fn. Sv.* 1200.
Merian. Europ. tab. 82.
Alb. Inſ. tab. 32.
Wilk. pap. 26. *tab.* 3. *a.* 1.
Degeer Inſ. 4. *tab.* 9. *fig.* 2.

The Caterpillar of this Moth are uſually found on the Bramble, from which it has received its Engliſh name; it is not, however, wholly confined to that food, as we have fed it on graſs and other plants indiſcriminately put into its breeding-cage. It paſſes to the chryſalis ſtate in September; the Fly appears in May.

PLATE

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PLATE CXXVII.

BUPRESTIS SALICIS.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ taper, the length of the thorax: Head half concealed.

SPECIFIC CHARACTER.

Head and thorax fine blue. Shells upper half changeable green; lower part reddiſh purple.

BUPRESTIS SALICIS: elytris integerrimis viridis nitens, coleopteris aureis baſi viridibus. *Fab. Gen. Inſ. Mant. p.* 237.

Buprestis elegantula, Schrank. Inſ. Auſtr. n. 365. *p.* 195.

Cucuius rubinus. Fourcroy. Ent. Paris. T. I. n. 4. *p.* 33.

Le Richard rubis. Geoff. Inſ. Paris F. I. p. 126.

Geputzter Stinkkäfer. Weiden-Prachtkäfer. *Panz. Faun. Inſ. Germ.*

This uncommonly beautiful Inſect has been deſcribed as a native of Algiers in Africa, a figure of it is given in the work of *Olivier*, and another in Panzer's Hiſtory of the Inſects of Germany; we find it alſo deſcribed by *Fourcroy* and *Geoffrory* as a native of France, but cannot learn that it has been conſidered as an Engliſh ſpecies before this time.

We were not ſo fortunate as to take this Inſect, it was communicated by a perſon on whoſe veracity we can rely: he found it on the bark of an old willow tree, between Dulwich Common and

Norwood, on, or about the 8th of June, 1794. As we know the preciſe ſpot where it was taken, we ſhall attend to it particularly next ſeaſon, and the earlieſt intimation of ſucceſs, ſhall be given through the medium of a future number.

When we conſider how much the ſtudy of coleopterous Inſects has been neglected in this country, even by thoſe who have purſued with unremitting perſeverance almoſt every other branch of Entomology, we cannot be much aſtoniſhed that ſuch a minute Inſect as the *Bupreſtis Salicis* ſhould have eſcaped notice; add to this, we can ſcarcely doubt that it is very rare in this country, and probably lives concealed in the crevices of the tree, or under the rotten part of the bark. The number of new Inſects that have been diſcovered in this country within a few years *, renders it not improbable, that future Engliſh Entomologiſts, by extending their enquiries, may find many more of the ſpecies that are now met with in the northern, and perhaps even ſouthern parts of Europe.

Fig. 1, natural ſize. Fig. 2, its magnified appearance.

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* Among the rarities met with laſt ſummer, we may particularly mention the Phalæna Delphinii, *Peaſe Bloſſom Moth.* This very beautiful Inſect was taken by a Gentleman at Chelſea; it was never aſcertained before to be an Engliſh Inſect.

PLATE

PLATE CXXVIII.

EPHEMERA VULGATA.

Common Ephemera, or May-Fly.

NEUROPTERA.

Wings 4. Naked, tranſparent, reticulated with veins or nerves. Tail without a ſting.

GENERIC CHARACTER.

Antennæ very ſhort. Two protuberances before the eyes. Wings erect. Second pair ſmall. Two or three tails like briſtles. Short lived.

SPECIFIC CHARACTER.

Wings reticulated, browniſh with five or ſix brown ſpots. Body yellowiſh, with black ſpecks. Three tails.

Ephemera Vulgata: cauda triſeta, alis nebuloſo maculatis. *Linn. Syſt. Nat.* 2. 906. 1. *Fn. Sv.* 1472.

In the larva and pupa ſtate, this Inſect is found under looſe ſtones at the bottom of ſhallow pools; in the winged ſtate it frequents the water.

We have ſeveral ſpecies of this genus in England. The Ephemera Vulgata, is the largeſt among them. A very diſtinguiſhing character of them is the ſhortneſs of their lives, which ſeldom exceeds a few hours. In the month of May theſe Inſects are ſeen in great plenty on the water, where they are greedily devoured by the fiſh; anglers ſay, when the large Ephemera appears, the trout will ſnap at no other bait, than the artificial fly made after its form.—In ſome ſpecimens the wings are more clouded, and the tails longer than in others.

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PLATE CXXIX.

FIG. I, II, III.

PHALÆNA HASTATA.

ARGENT AND SABLE MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the baſe. Wings in general contracted when at reſt. Fly by night.

*** GEOMETRÆ.*

SPECIFIC CHARACTER

AND

SYNONYMS.

White, beautifully marked and ſpotted with black.

PHALÆNA HASTATA: ſeticornis, alis omnibus nigris albo maculatis, faſciis duabus albis nigro punctatis haſtata dentatis. *Linn. Syſt. Nat.* 2. 870. 254. *Fn. Sv.* 1276.

Phalæna antennis filiformibus; alis latis albis faſciis undulatis maculiſque haſtatis nigris. *Degeer. Inſ. Verſ. Germ.* 2. 1. 334. 7. *tab.* 8. *fig.* 20.
Clerk. phal. tab. 1. *fig.* 9.
Kleman Inſ. 1. *tab.* 44.

The Argent and Sable Moth is ſcarce in the Fly ſtate: though its young caterpillars are not uncommon in ſome parts of Kent; we have

have met with ſeveral about the narrow lanes in Darent-wood, Dartford, in April, or early in the month of May. It is however very difficult to breed them; they generally die in the pupa ſtate, or before they caſt their laſt ſkin when caterpillars; from ſeveral ſpecimens taken during the three laſt ſummers, we have only had one Moth produced, and that ſo crippled, as merely to enable us to aſcertain the ſpecies.

The ſmall Caterpillars are of a dark purpliſh colour, when nearly full fed they have a yellow under ſide marked with black, with the back purple; before they change to the pupa ſtate, they become almoſt brown.

They remain only a month in the pupa ſtate. The Moth appears about the middle of June.—Food, white-thorn and alder.

PHALÆNA ANASTOMOSIS.

FIG. IV.

Since the publication of the laſt Number, we have been favoured with a moſt beautiful ſpecimen of the Moth figured in the 124th Plate of this Work, and preſent a figure of it to our ſubſcribers, together with the ſeveral changes of the Phalæna Haſtata; it will ſhew how very liable this Inſect is to variation in its colours, ſize, &c.

We find alſo that though this Inſect has been named Phalæna Anaſtomoſis in the moſt ſcientific Cabinets in London, and always received as ſuch by the beſt authority, it is not the Inſect referred to by Fabricius in his Species Inſectorum under that title; that Author, as well as Linnæus, refers under the ſpecific name *Ph. Curtula* to the 43d Plate of the third Volume of Roeſel's Inſects; in this Plate is figured a Moth which is certainly a ſpecies diſtinct from our Inſect, and is well known by its Linnæan name *Curtula*, or Engliſh title *Chocolate Tip*; yet Fabricius gives an additional reference for the ſame ſpecies to the 11th Plate of Roeſel's fourth

fourth Volume of Inſects, and in this we find the figure of a Moth whoſe markings and general appearance correſpond with our ſpecimen, though its colours are totally different, being a very pale grey with ſcarcely any dark colour near the apex of the wings; the larva much more reſembles our figure, and induces us to conclude, that though the figure of this laſt Moth is ſo extremely different, it is probably intended for the ſame ſpecies as our Inſect; and therefore that the two diſtinct ſpecies have been confounded together, by a falſe quotation of Linnæus's Amanuenſis.

And we are partly confirmed in this ſuppoſition by the words of Linnæus himſelf; he ſays, *Ph. Anaſtomoſis* is very like *Ph. Curtula*, but the Moth figured in Rœſel's plate, and referred to in the Synonyms under Anaſtomoſis, does not bear the leaſt reſemblance to it; —our Inſect on the contrary, though evidently a diſtinct ſpecies, is not unlike it.

PLATE CXXX.

GRYLLUS VIRIDISSIMUS.

HEMIPTERA.

Shells, or upper Wings, ſemicruſtaceous, not divided by a ſtraight ſuture, but incumbent on each other. Beak curved down.

GENERIC CHARACTER.

Head maxillous, and with palpi. Antennæ filiform. Wings folded. Hind Legs ſtrong, for leaping.

SPECIFIC CHARACTER

AND

SYNONYMS.

Head, Thorax, and Wings green, without ſpots. Antennæ very long.

GRYLLUS VIRIDISSIMUS: thorace rotundato, alis viridibus immaculatis, antennis ſetaceis longiſſimis. *Linn. Syſt. Nat. v.* 1. *p.* 430. 38. *edit.* 10.

LOCUSTA VIRIDISSIMA: alis viridibus immaculatis, antennis longiſſimis. *Fab. Syſt. Ent.* 286. 22.—*Spec. Inſ.* 1. 359. 23.

Locuſta viridis cantatrix viridis immaculata, thorace rotundato, cauda feminæ enſifera recta. *Degeer Inſ.* 3. 428.

Agrigoneus. Liſt. Goed. 301. *tab.* 121.

This Inſect is larger than the great green Graſshopper, (*Gryllus verrucivorus*) or any other ſpecies of the genus we have in this country; unleſs we notice the *Gryllus Magratorius*, which is well known for its depredations in many parts of the world, but is rarely met with in England.

The preſent ſpecies is perhaps not uncommon in many places, but it is very difficult to diſcover its hiding-places in the day-time; its chirp is ſometimes heard in a calm Summer's evening, about ſun-ſet, iſſuing from the buſhes where it is concealed; and from which it ſeldom ventures till night: it continues its chirping at intervals till morning.

The female ſeems to prefer a warm, and rather moiſt ſituation, to depoſit her eggs in, and this is commonly the ſide of a bank that is expoſed to the ſun; but is well covered with graſs and other herbage to keep it moiſt. She is furniſhed with a ſharp double edged ſheath, like a *ſword*, with which ſhe opens the ground in a perpendicular direction; firſt ſcooping out a convenient cylindrical aperture, and then widening the lower part into a ſpacious apartment for the reception of the eggs. *See* Fig. I.

When the Inſect burſts from the egg it is very minute, and without Wings; in this ſtate it nips the tender ſhoots of graſs, &c. It ſoon increaſes in ſize and aſſumes the pupa form; in which ſtate though the Wings are not perfect, their rudiments appear next the Thorax: it continues in this ſtate till it has nearly acquired its full ſize before the Wings burſt open from the protuberances.

Our ſpecimens were taken in Batterſea Meadows; in the egg ſtate early in April; winged ſtate in June.

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PLATE CXXXI.

TABANUS CAECUTIENS.

DIPTERA.

Wings two.

GENERIC CHARACTER.

Antennæ conic, of four ſegments. Trunks fleſhy, terminated by two lips. Palpi, one on each ſide of the Trunk.

SPECIFIC CHARACTER

AND

SYNONYMS.

Eyes brilliant, green with black ſpots. Thorax brown with yellowiſh lines. Body bright yellow with triangular black marks, anterior margin, and center of the Wing black.

TABANUS CAECUTIENS: oculis viridibus nigro punctatis, alis maculatis. *Fab. Syſt. Ent. n.* 18. *p.* 790. *Fab. Spec. Inſ.* 2. 27. *p.* 459.

TABANUS CAECUTIENS: oculis nigro-punctatis, alis maculatis.— *Linn. Syſt. Nat.* 17. *p.* 1001. *ed.* 13. *n.* 17. *p.* 2885. *Faun. Suec. n.* 1888.

Tabanus fuſcus, abdominis lateribus pedibuſque flavis, alis maculis fuſcis. *Geoffr. Inſ.* 2. *n.* 8. *p.* 463.

Tabanus nibuloſis. Harris Inſ. Angl. tab. 7. *fig.* 5.

Muſca bipennis pulcra, alis maculis amplis albis pictis. *Rai. Inſ. p.* 272.

Le Taon brun, à cotes du ventre jaunes, et ailes tachetées de noir. *Geoffr.*

Die buntaugichte Breme. *Panzer's Deutſchlands Inſecten, &c.* — *Faun. Inſ. Germ.*

In the months of June and July, or earlier in forward ſeaſons, this Inſect is found in great plenty in the lanes and ſkirts of woods; and are very troubleſome to perſons or animals who paſs through ſuch places in the middle of the day: they conceal themſelves in the crevices of the bark of trees, or among the foliage till about an hour before noon, when they come forth in great plenty, and ſettle on the hands and face, or other thinly covered parts, and dart their ſharp pointed trunks or proboſcis into the fleſh: we have obſerved the ſting of this Inſect to be moſt ſevere about mid-day, particularly when the ſun ſhines bright, and emits much heat; a diſagreeable ſenſation continues in the ſtung part for ſome time, and is generally ſucceeded by a large tumor, and a ſlight diſcharge of pungent fluid before it diſappears entirely.

To explain more minutely the ſtructure of the trunk, we have given a figure of its magnified appearance at Fig. III: the outer coat, or ſheath, terminates at its extremity, in two lateral, moveable lips, and contains a longitudinal, horny, convex blade; the acute point of which is concealed between theſe lips: this interior tube, when examined with a Microſcope, appears to conſiſt of three others, exceedingly ſharp at the points; and are uſed by the Inſect as lancets to lacerate the fleſh when it feeds, while it pumps, or ſucks up the blood and moiſture from the wound, through the capillary tubes with which ſeveral parts of the trunk are furniſhed.

It feeds in the ſame manner on Inſects, but chiefly on thoſe in the larva ſtate.

The ſpecies is not uncommon in Germany, France, Italy, and moſt warm parts of Europe: alſo received from Georgia, in North America.

Fig. I. Natural Size. Fig. II. Front View of the Head magnified, with the Eyes and Proboſcis; the former are moſt beautiful microſcopical objects when the Inſect is alive, but turn brown after it dies.

PLATE

PLATE CXXXII.

PHALÆNA LUNARIA.

Beautiful Thorn-Moth.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the baſe. Wings, in general deflexed when at reſt. Fly by night.

SPECIFIC CHARACTER.

Antennæ feathered. Wings angulated, indented; a *lunar* ſpot near the center of each. General colour, pale red brown, clouded and ſpeckled.

Kleman, Inſ. 3.
Fab. Spec. Inſ. 2. 245. 18 ?

We have been furniſhed with the larva of this extremely rare Inſect in a ſingular manner: a waſted ſpecimen of the female was taken in the Summer of the year 1794, and depoſited a quantity of eggs in the box in which it was ſtuck; theſe hatching ſome time after, a great number of young Caterpillars were produced; ſeveral of a full ſize, paſſed to the pupa ſtate, (in a reddiſh web ſpun on the leaves) and four fine Moths came forth laſt Summer.

The eggs were very minute, perfectly globular, and of a pale greeniſh colour: the cluſter conſiſted of more than ſeventy, and few of them proved abortive; but ſome of the largeſt Caterpillars devoured

voured the reſt, and many others wandered from the food, and ſo periſhed. The Moths were far ſuperior for the beauty and richneſs of their colours to any ſpecimens we have ſeen before; but this is not remarkable, as moſt of the ſpecimens preſerved in Cabinets near London, have been taken in the winged ſtate.

It feeds on the lime; is found in the Caterpillar ſtate in Auguſt; the Moth appears in June. Is ſometimes taken in the interior part of Darent-Wood, Dartford; and rarely elſewhere near London. It has been met with alſo at Feverſham, in Kent, on the Elm.

Kleman, in the laſt volume of German Inſects, lately publiſhed, has given three figures of this Moth; but has neither figured the Caterpillar nor Pupa. *Fabricius* is the only ſyſtematical Writer who appears to have noticed it.

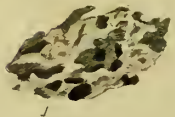

PLATE CXXXIII.

PHALÆNA PSI.

Grey Dagger-Moth.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the baſe. Wings, in general deflexed when at reſt. Fly by night.

Noctua, Antennæ ſetaceous.

SPECIFIC CHARACTER

AND

SYNONYMS.

Firſt wings and body grey; on the former three or four black marks, in the form of a dagger *. Second wings pale brown, with a ſlightly ſcalloped margin.

Phalæna Psi: criſtata, alis deflexis cinereis, anticis lineola baſeos characteribuſque nigris. *Syſt. Ent.* 614. 104.—
Fab. Spec. Inſ. 2. 235. 129.
Linn. Syſt. Nat. 2. 846. 135.
Alb. Inſ. tab. 26.

The Caterpillars of the Grey Dagger-Moth is frequently found on fruit trees; particularly on the cherry: it feeds alſo on the willow and poplar, and on almoſt all plants indiſcriminately when confined in the breeding cage. It is not an uncommon Inſect: the Caterpillars change in September, remain in the chryſalis ſtate during winter, and the Moth appears late in May, or early in June.

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* Or like the Greek (ψ) *Pſi*; from which it receives its ſpecific name.

PLATE CXXXIV.

PHALÆNA PLANTAGINIS.

Small Tiger.

Lepidoptera.

GENERIC CHARACTER.

Antennæ taper from the baſe. Wings in general deflexed when at reſt. Fly by night.

Bombyx antennæ of the male pectinated or feathered.

SPECIFIC CHARACTER.

Firſt Wings yellow, ſecond Wings orange colour; both clouded with black. Body orange and black.

Phalæna Plantaginis elinguis. alis deflexis atris, rivulis flavis, inferioribus rubro maculatis. *Linn. Syſt. Nat.* 2. 820. 42.—*Fn. Sv.* 1132.

Phalæna pectinicornis elinguis, alis deflexis, ſuperioribus fuſcis, maculis luteis, inferioribus rubris, maculis quatuor nigris. *Geof. Inſ.* 2. 109. 10.

Phalæna Alpicola. Scop. carn. 507.
Wilk. pap. 24. *tab.* 3. *a.* 5.
Roeſ. Inſ. 4. *tab.* 24.
Fab. ſpec. Inſ. 2. 196. 115.

L'Ecaille brune. *Geofr.*

Der Wegerichſpinner. Die ſpaniſche Fahne. Die beſchleierte Bärenphalene. *Panſ. Fauz. Inſ. Germ.*

This ſpecies feeds on nettles, chickweed, plantain, graſs, &c. The Caterpillars very much reſemble thoſe of the large *Garden Tiger* Moth*, except in ſize; they change into chryſalis about the middle of April, and appear in the winged ſtate the latter end of May.

We have not found this Inſect ſo plenty as the *Ruby Tiger* Moth†, and it is infinitely more ſcarce than the great *Garden Tiger* Moth, figured in the early part of this Work.

A variety of this ſpecies, with crimſon under wings, is found in the Eaſt Indies and in America. The under wings of the female, in the European ſpecimens, are much redder than in the male.

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* Phal. Caja.

† Phal. Fuliginoſa.

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PLATE CXXXV.

CIMEX SPISSICORNIS.

HEMIPTERA.

GENERIC CHARACTER.

Antennæ longer than the thorax. Thorax margined. In each foot three joints.

SPECIFIC CHARACTER

AND

SYNONYMS.

Antennæ very large. Head, thorax, and ſhells, pale blackiſh brown. Feet yellow.

CIMEX SPISCICORNIS: oblongus niger, pedibus flavis, antennis incraſſatis. *Fabri. Gen. Inſ. Mant. p.* 300.—*Sp. Inſ.* 2. 207. *p.* 372.

Die borſtenhornige Wanze. *Panz. Inſ. Germ.*

The ſingular ſtructure of the antennæ of this minute Inſect, recommends it to particular notice. They are nearly as long as the body, and in the thickeſt part are very bulky; hence it has received the ſpecific name Spiſſicornis, or large horned Cimex.

It is not uncommon in ſummer; flies amongſt buſhes or low herbage in the day time: the lower wings are of a very beautiful purple colour, and give a blackiſh hue to the outer wings when folded

folded under them. The larva we ſuſpect has not been figured, if noticed, before, and for this reaſon we have given it of the natural ſize at fig. 1. and its magnified appearance at fig. 2.—at fig. 3. the natural ſize of the perfect or winged inſect; fig. 4. the ſame magnified.

Found in the larva ſtate in May, was fed on graſs, the winged Inſect appeared June 19th.

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PLATE CXXXVI.

PHALÆNA HEXADACTYLA.

MANY-FEATHERED MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the baſe. Wings in general deflexed when at reſt. Fly by night.

* PTEROPHORUS.

SPECIFIC CHARACTER.

Wings divided into Feathers, yellowiſh and grey, with brown Spots.

Phalæna Hexadactyla. *Linn. Syſt. Nat.*

PHALÆNA HEXADACTYLUS, alis fiſſis cinereis, ſingulis ſexpartitis. *Fab. Spec. Inſ.* 2. 312. 7.—*Syſt. Ent.* 672. 7.
Reaum. Inſ. I. *tab.* 19.—*Fig.* 19. 21.
Friſch. Inſ. 7. *tab.* 73.

Among an almoſt endleſs variety of ſpecies, which the tribes of Inſects preſent, few have a more ſingular appearance than the little creature we have ſelected for our preſent ſubject. It is perhaps one of the moſt curious pieces of natural mechaniſm (if we may be allowed the expreſſion) that can be conceived, for of a moſt complicated fabric which the wings appear, every part, though ſeparate,

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* *Fabricius.*

acts in perfect uniſon with the reſt; in moſt winged Inſects we find the tendons of each wing united by ſtrong membranaceous webs, which prevent any one from acting without the others, but in this every tendon muſt perform a diſtinct part, and yet perfectly in conformity with the reſt to aſſiſt the Inſect in its flight. When the Inſect reſts the feathers fold over one another; but when it flies, they are thrown open, and reſemble a full expanded fan.

The natural ſize of this ſingular creature is given at Fig. 1. and as a more correct figure than can be ſhewn in ſuch a ſmall compaſs was thought neceſſary, its magnified appearance is repreſented at Fig. 2.

The plumes of this Inſect differs ſo much from thoſe of other Moths, that we have alſo added, at Fig. 3, the appearance of the upper part of one, as ſeen by a very deep lens of the Microſcope; by this the ſtem or quil is obſerved covered with ſcales of the form uſually found on other Moths, but the ſides are finely feathered with long hairs, in tufts, alternately of a light and dark colour, and which, owing to the minuteneſs of the Inſect appear like patches of an uniform colour, before it is examined with the Microſcope.

This Inſect is not uncommon in Summer, it flies about hedges in the evening.

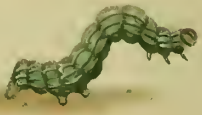

PLATE CXXXVII.

PHALÆNA CHRYSITIS.

BURNISHED BRASS MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the Baſe. Wings in general deflexed when at reſt. Fly by night.

NOCTUA.

Antennæ of both ſexes filiform.

SPECIFIC CHARACTER

AND

SYNONYMS.

Firſt Wings brown, with two tranſverſe broad waves of greeniſh gold on each. Second Wings blackiſh grey. Wings margined.

PHALÆNA CHRYSITIS *Linn. Syſt. Nat.* 2. 843. 126.

Noctua criſtata, alis deflexis orichalceis, margine faſciaque griſeis. *Syſt. Ent.* 606. 69.—*Spec. Inſ.* 2. *p.* 226. 91. —*Fabricius.*

Phalæna ſeticornis ſpirilinguis, alis deflexis ferrugineo fuſcis, faſcia duplici tranſverſa viridi aurea. *Geof. Inſ.* 2. 149. 97.

Phalæna antennis filiformibus, dorſo criſtato, alis deflexis griſeis, faſciis duabus aureo viridibus. *Degeer. Inſ. Vers. Germ.* 2. 1. 311. 2.

Merian. Europ. tab. 39.

Albin Inſ. tab. 71. *fig. a. b. c. d.*

Shæff. Icon. tab. 101. *fig.* 2. 3.

The pencil can produce but a feeble and inadequate imitation of the metallic ſplendour of this beautiful, yet common Inſect. The upper Wings have the appearance of fine burniſhed braſs, changeable in different directions of the light to green, brown, and rich golden hues; the under Wings are of a blackiſh colour, and ſerve as an admirable contraſt to the more brilliant and varied teints of the upper Wings. The Thorax is creſted.

Berkenhout has given a very falſe deſcription of the Caterpillar of this Inſect, he ſays it is "ſmooth, orange with white ſpots;" we think it neceſſary to note this error only as it may miſlead young Collectors, who have no other aſſiſtant than his Synopſis, by which they can determine the Species, when in the Caterpillar ſtate. It is aſtoniſhing how he could poſſibly be led into this error, when *Albin*, *Fabricius* *, and all preceding authors on Entomology, have deſcribed it ſo plainly.

It feeds on Nettles, and other Plants, growing among the low herbage by the ſide of banks; in fine ſeaſons there are generally two broods of them from May, to June in the following year; the firſt are found early in May in the Caterpillar ſtate, appear in June in the winged ſtate; Caterpillars are full fed again in July, the Moths come forth in Auguſt.

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* *Larva* ſolitaria, gibboſa, viridis albo ſtriata. *Fabricius.*


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PLATE CXXXVIII.

FIG. I. II. III.

CASSIDA NOBILIS.

COLEOPTERA.

Wings two, covered by two ſhells, divided by a longitudinal ſuture.

GENERIC CHARACTER.

Antennæ knotted, enlarging towards the ends. Shells and Thorax bordered. Head concealed under the corſelet.

SPECIFIC CHARACTER.

Greyiſh Green; on the center of each Shell a ſtreak of gold, which dies with the Inſect. Body beneath black.

CASSIDA NOBILIS: griſea elytris linea cœrulea nitidiſſima.
Linn. Syſt. Nat. 2. 575. 4.
Oliv. Inſ. 97. *tab.* 2. *fig.* 24.
Raj. Inſ. 107. 7.

This ſpecies is far leſs common than *Caſſida Viridis*. It is a very beautiful Inſect; but, like moſt other minute ſpecies, appears with infinitely more advantage in the Microſcope for opake objects; indeed, without ſuch aſſiſtance, it is impoſſible to perceive the beauty of that part by which it is diſtinguiſhed from every other ſpecies of the ſame genus we have in England, the lines of fine gold and blue, which are ſeen on the middle of the Shells.

When the Inſect is alive, it is of a pale greeniſh colour, inclining to browniſh grey, and along the middle of each Shell appears a ſplendid ſtreak, or line of gold, margined with a fine pale ſky blue, alternately varying into green, and gold. By the Microſcope we

alſo

alſo diſcover many minute punctures, and ſeveral waved lines and ſtreaks, which deſcend along the Shells from the baſe, and unite near the apex.

Its colours are more or leſs beautiful as the Inſect is healthy or ſickly; and as it dies, the colours gradually periſh; the ſplendor of gold is no longer viſible than life is retained, it changes to green; from green to a brown, which ſcarcely appears through a faint tinge of blue, and in a few hours it changes altogether to a ruſty brown colour.

This Inſect is admirably protected from external injury by the ſingular form of its Thorax and Shells, which are alſo ſo large as to conceal every other part when the Inſect walks.

The natural ſize is ſhown at fig. 4, (upper ſide.) Fig. 2, under ſide. Fig. 3, upper ſide magnified.

FIG. IV.

CHRYSOMELA BANKII.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ knotted, enlarging towards the ends. Corſelet margined.

SPECIFIC CHARACTER

Body oval. Head, Thorax and Shells, purpliſh olive colour, changeable, with a bronze appearance. Beneath, reddiſh brown, or teſtaceous.

CHRYSOMELA BANKII: ovata ſupra ænea ſubtus teſtacea. *Fab. Entomologia Syſtematica. T.* 1. 310. 16.

This is a very rare Inſect in England. It reſembles *Chryſomela bicolor* in ſize, and colour of the Head, Thorax and Shells; but it may be readily diſtinguiſhed from that ſpecies by the teſtaceous colour of the under ſide, that part being wholly of a violaceous colour in *C. bicolor*.

Found in May on a thiſtle.

FIG.

FIG. V. VI.

CICADA DILATATA.

HEMIPTERA.

Shells or upper Wings, ſemi cruſtaceous, divided by an oblique ſuture, and incumbent on each other. Beak bent down.

GENERIC CHARACTER.

Antennæ taper. Shells membraneous. In each foot three joints. Hind legs ſtrong for leaping.

SPECIFIC CHARACTER.

Entirely brown, pale with faint whitiſh and dark lines, a ſmall black ſpot on the center of each wing.

A figure of this Inſect is given in Villers's Entomology as a native of France; in this he follows the authority of Fourcroy, who has a deſcription of the ſame ſpecies in his Catalogue of Inſects, found in the environs of Paris. This laſt author calls it Le Cigale renflée, from its puffed or ſwelled appearance. The name given by Villers is Cicada dilatata.

The confuſion made by Fabricius, in his alterations of the *Linnæan genera*, renders it doubtful whether he has deſcribed this Inſect, though, from its being commonly found in moſt parts of Europe, we muſt ſuppoſe he has not paſſed over it without notice: we have examined his laſt work, (Entomologia Syſtematica, &c.) and cannot find an Inſect anſwering our ſpecies with any reference either to Fourcroy or Villers, we therefore prefer the ſpecific name given by the latter author.

Is found in June; and is leſs common than any Inſect of the ſame genus hitherto given in this work.

PLATE CXXXIX.

PHALÆNA METICULOSA.

ANGLE-SHADES MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the baſe. Wings, in general deflexed when at reſt. Fly by night.

* *Noctua* antennæ like briſtles in both ſexes.

SPECIFIC CHARACTER

AND

SYNONYMS.

Firſt Wings pale reddiſh colour, with a broad triangular brown ſpake in the middle. Second Wings paliſh, with dark waves; margin of both Wings indented.

Phalæna Meticuloſa. *Linn. Syſt. Nat.* 2. 845. 132.—*Fn. Sv.* 1164.

Phalæna Meticuloſa: alis deflexis, eroſo dentatis, pallidis, anticis baſi incarnata, triangule fuſco. *Fab. Syſt. Ent.* 608. 78.

Phalæna ſeticornis ſpirilinguis, alis deflexis margine eroſis cinereo fuſcis, ſuperioribus triangulo marginali fuſcescente, incarnatum includente, thorace gibbo. *Geof. Inf.* 2. 151. 84.
Merian. Europ. tab. 24.
Albin Inf. tab. 13.
Roeſ. Inf. 4. *tab.* 9.
Degeer Inf. 1. *tab.* 5. *fig.* 14.
Goed, Inf. 1. *tab.* 56.

The Phalæna Meticulosa certainly exceeds many other Insects of the same tribe for elegance and simplicity: the variety of teints so delicately, indeed almost insensibly softened into one another, and neatness of the waves and lines interspersed over the whole, amply compensate for the defection of more gaudy colours. In the caterpillar state it is scarcely less deserving attention; the yellow specks on a beautiful, yet lucid green, have a very pleasing effect. The web it spins round its pupa is of a fine white colour, and silky texture; the pupa within of a blackish chocolate colour.

This species is sometimes met with in plenty, though less so in some seasons than in others; and not unfrequently is more abundant when the season appears most unfavourable. It feeds on nettles chiefly, but we have found it on several other plants; and once on a young oak, in Kent; the leaves of which we fed it on some time. In the caterpillar state it is found in April, changes to the pupa state in May, the Moth appears in June.

PLATE CXL.

SCARABÆUS FASCIATUS.

YELLOW BEETLE.

COLEOPTERA.

Wings two, covered by two ſhells, divided by a longitudinal ſuture.

GENERIC CHARACTER.

Antennæ clavated, their extremities fiſſile. Five joints in each foot.

SPECIFIC CHARACTER

AND

SYNONYMS.

Head, Body, Thorax, black: covered with long, yellowiſh hairs. Shells pale yellow, with three tranſverſe black ſtripes on each. Abdomen longer than the Shells.

SCARABÆUS FASCIATUS ſcutellatus muticus niger tomentoſo flavus, elytris faſciis duabus luteis coadunatis. *Linn. Syſt. Nat.* 2. 556. 70. *Fn. Sv.* 395.

TRICHIUS *faſciatus:* niger tomentoſo flavus, elytris faſciis tribus nigris abbreviatis. *Fab. Syſt. Ent.* 40. 1. —*Spec. Inſ.* 1. 48. N° I.

Scarabæus niger hirſuto flavus, elytris luteis, faſciis tribus nigris interruptis. *Geoff. Inſ.* 1. 80. 16.

Drury Inf. 1. *tab.* 36. *fig.* 2.
Degeer. Inf. 4. *tab.* 10. *fig.* 19.
Voet. Scar. tab. 5. *fig.* 43.

In Germany this Insect is not uncommon: we believe it is very rare in this country. Found generally on umbelliferous plants.

PLATE CXLI.

PHALÆNA DOMINULA.

SCARLET TIGER MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the baſe. Wings, in general contracted when at reſt. Fly by night.

Bombyx antennæ of Male feathered, Female ſetaceous.

SPECIFIC CHARACTER

AND

SYNONYMS.

Firſt Wings black gloſſy green, with orange and white ſpots. Second Wings and Abdomen ſcarlet, with black ſpots.

Phalæna Dominula: alis incumbentibus atris, maculis albo flaveſcentibus, poſticis rubris nigro maculatis. *Fab. Syſt. Ent.* 583. 93.—*Spec. Inſ.* 2. 200. 130.

Phalæna Dominula. *Noctua* ſpirilinguis lævis, alis depreſſis nigris: ſuperioribus cæruleo flavo alboque, inferioribus rubro maculatis. *Linn. Syſt. Nat.* 2. 509. 68 *edit.* 10.

Formerly this beautiful Moth was found in great abundance at *Charlton* in *Kent*, but within the laſt two or three years moſt of the broods

broods have been wantonly deſtroyed, and they are now ſeldom met with. In the caterpillar ſtate they feed on nettles and hound's-tongue *, changes to the pupa ſtate about the middle of May, and in June the Moth comes forth.

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* *Cynogloſſum officinale.*

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PLATE CXLII.

FIG. I.

MUSCA AURATA.

DIPTERA.

Wings two.

GENERIC CHARACTER.

A ſoft flexible trunk, with lateral lips at the end, no Palpi.

SPECIFIC CHARACTER

AND

SYNONYMS.

Head brown. Thorax poliſhed, greeniſh, or braſſy. Abdomen flat, obtuſe, browniſh gold-colour. Legs yellowiſh; Feet brown.

Muſca aurata: antennis ſetariis nitida thorace æneo, abdomine obtuſo aureo. Fabricius. *Ent. Syſt. Vol. VI.* 335. 37.——*Mantiſſa. Vol. II. p.* 347. *No.* 63.

This Inſect has been only noticed in the latter writings of Fabricius. We have not found it uncommon in the ſummer upon the leaves of Fruit trees; and particularly on ſuch as grow againſt a ſouth wall: they fly briſkly about noon, when the ſun ſhines.

FIG. II. III.

MUSCA SEMI-ARGENTATA.

SPECIFIC CHARACTER.

Eyes brown. Thorax green; changeable to ſilver. Abdomen ſilvery, with ſhades of bright yellow, and grey, and ſome tranſverſe ſtreaks of black, very changeable.

Muſca ſemi-argentata. *Marſham's MSS.*

We do not find that this rare and beautiful Inſect has been deſcribed either by *Linnæus* or *Fabricius*. It was taken a few years ſince in Epping Foreſt by Mr. Bentley, an eminent Collector of Engliſh Inſects, and noticed by Thomas Marſham, Eſq. Sec. L. S. in his Manuſcript Notes, under the ſpecific name Semi-argentata. Several ſpecimens of it were taken laſt June in Epping Foreſt; except them, we have not heard of any being met with for ſome time.

Fig. 2. natural ſize. Fig. 3. magnified.

PLATE CXLIII.

PAPILIO ARGUS.

COMMON BLUE BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ knobbed at the end. Wings, when at reſt, erect. Fly by day.

SPECIFIC CHARACTER.

Male upper ſide fine blue with white margins. Female dark brown, with a patch of blue on the middle of each wing. Underſide of both ſexes lightiſh brown, with black and red ſpots.

Papilio Argus: alis ecaudatis, poſticis ſubtus limbo ferrugineo ocellis cœruleo argenteis. *Fab. Syſt. Ent.* 525. 346.—
Linn. Syſt. Nat. 2. 789. 232.
Fn. Sv. 1074.
Roeſ. Inſ. 3. *tab.* 37. *fig.* 3—5.
De Geer Inſ. 4. *f.* 14. 15.
Wilk. Pap. 63. *t.* 1. *a.* 1.
Merian. Europ. tab. 153.
Schæff. Icon. tab. 29. *fig.* 3. 4.

Though this beautiful Inſect is very common in ſome places in the Butterfly ſtate, we have never met with it's larva, nor with any account of it that appeared ſatisfactory. In that ſtate it ſeems ſcarcely known. It is ſaid, by ſome Collectors, to be a plain green Caterpillar, with very few hairs, bulky, and broadeſt acroſs the middle. It certainly feeds very low among the thickeſt graſs, or perhaps like

ſome larvæ of Moths, never comes above the ſurface of the ground, and lives on the roots of graſs.

The Male is of a fine blue colour on the upper ſide, and elegantly marked on the under ſide with white circles, having a black ſpot in the center of each: the wings are alſo bordered with ſimilar ſpots, marked with a vermillion colour. The Female has very little appearance of the fine blue of the Male: the upper wings are of a dull browniſh black, with a bluiſh colour on parts, and marked with a few red and black ſpots: the underſide as in the Male.

They ſeem to delight in Meadows, and, like all other Butterflies, are on the wing only in the day time. The firſt brood appears in the Fly ſtate in June.

PLATE CXLIV.

PHALÆNA VIRIDANA.

SMALL GREEN OAK MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the baſe. Wings, in general deflexed when at reſt. Fly by night.

** Tortrix. *Linn.*

SPECIFIC CHARACTER

AND

SYNONYMS.

Firſt Wings pea green. Second Wings duſky.

Phalæna viridana. Pyralis. Alis rhombeis, anticis viridibus immaculatis.—*Fabricius. Syſt. Ent.* 656. 4.—*Linn. Syſt. Nat.* 2. 875. 266.

Phalæna ſeticornis ſpirilinguis, humeris latis, antennis flaveſcentibus, alis dilute fuſcis.—*Geof. Inſ.* 2. 171. 123.
Reaum. Inſ. 2. *tab.* 18. *fig.* 6. 7.
Roeſ. Inſ. 1. *phal.* 4. *tab.* 1.
Friſch. Inſ. 3. *tab.* 8.

Early in July we find this ſpecies flying about the narrow paths and lanes in woods where Oaks are plenty. It is obſerved to ſhelter itſelf in the day time, generally among ſuch trees as have the foliage thick

thick and the bark covered with moſs, &c. and very ſeldom among young trees. In the Caterpillar ſtate it lives concealed in a fine ſilky web, ſpun up on the leaves. When it is diſturbed it drops by a ſingle thread from one branch to another, the glutinous ſubſtance of the thread adhering wherever it touches, ſo that if it is damaged in any part the Inſect is in no danger of falling, unleſs the laſt faſtening breaks off. The Caterpillar changes to the pupa ſtate early in June: the firſt appearance of the Moth is commonly about the end of the ſame month.

In England we have another ſmall Moth (Phalæna Chlorana) which at firſt ſight may be miſtaken for Phalæna Viridana. It differs from this Inſect in ſeveral reſpects; the under Wings are whiter, and the ſtripe along the anterior margin of the upper Wings incline more to a cream colour than in our preſent ſpecies; the Caterpillar alſo is very different and feeds on the Willow.

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